

REMARKS

Claims 1-14 and 19-22 are pending. By this Amendment, claims 1 and 11 are amended.

The Examiner rejects claims 1-6, 8, 9, 11-14 and 19 under 35 U.S.C. §102(b) over U.S. Patent No. 6,602,472 to Zimmermann et al.; rejects claims 7 and 20-22 under 35 U.S.C. §103(a) over Zimmermann and rejects claim 10 under 35 U.S.C. §103(a) over Zimmermann in view of U.S. Patent No. 6,633,031 to Shultz.

Applicants' independent claim 1 is directed to an electrospray source having a structure comprising at least one flat and thin tip being cantilevered along a plane in relation to the rest of the structure. The tip is provided with a capillary slot formed through the complete thickness of the tip. The thickness is substantially orthogonal to the plane. The capillary slot ends up at the end of the tip to form the ejection orifice of the electrospray source. The source comprises a means of supplying the capillary slot with liquid to be nebulised and means of applying an electrospray voltage to the liquid.

Applicants' independent claim 11 is directed to a method of manufacturing a structure that is an electrospray source comprising, the formation of a support from a substrate. The formation of a wafer having a part constituting a flat and thin tip, the tip being provided with a capillary slot, to convey a liquid to be nebulised, formed in the complete thickness of the tip and which ends up at the end of the tip. The wafer is made integral on the support and the tip is cantilevered along a plane in relation to the support. The thickness is substantially orthogonal to the plane.

Such features encompass Applicants' exemplary embodiment as illustrated in Fig. 1A wherein the electric spray source includes a support 1 and a wafer 2 integral

with the support 1. A part of the wafer 2 forms a tip 3 cantilevered along a plane in relation to the support 1. The wafer includes in its center a recess 4 constituting a reservoir. A capillary slot 5 connects the reservoir 4 to the end 6 of the tip 3. As shown in Fig. 2 the capillary slot 5 is formed through the complete thickness of the tip 3 orthogonal to the plane. The above description from the specification does not limit Applicants' claims.

In contrast, Fig. 4a of the Zimmermann patent discloses a microspray tip 57 including a panel 56. Microchip 50 includes a drawing-in tube 51. Sample reservoirs 52 open into a channel 53 which in turn has a substance conveying connection the to drawing-in tube 51. Channel 53 opens, in turn, into an area of channel 54. Substances which are finally produced at the end of the separating channel 54 are then fed to the microspray tip 57 via channel 56. Channel 56 is a tubular channel, similar to tubular channel 33 shown in Fig. 2 and a not a capillary slot formed through a complete thickness of the tip orthogonal to the plane.

Applicants' independent claim 11 is distinguishable over Zimmermann for reasons similar to those discussed above with respect to independent claim 1.

The Shultz patent does not overcome the deficiencies of the Zimmermann patent noted above.

The dependent claims are distinguishable over the cited references for at least the reasons discussed above as well as for the individual features they recite. For example, dependent claim 12 recites the provision of a substrate to form a support, the delimitation of the support by means of trenches etched in the substrate, the deposition, on a zone of the substrate corresponding to the future tip of the structure, of sacrificial material according to a determined thickness, the deposition

of a wafer on the support delimited in the substrate, the tip of the wafer being situated on the sacrificial material, the elimination of the sacrificial material, and the detachment of the support in relation to the substrate by cleavage at the level of said trenches. These features are not disclosed in the Zimmermann patent. The portion of the Zimmermann patent cited by the Examiner, column 6, lines 11-43, does not support the Examiner's allegation that the features of claim 12 are disclosed by the Zimmermann patent.

Prompt and favorable examination on the merits is respectfully requested.

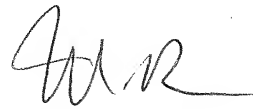
Should the Examiner have any questions regarding this Amendment or the application in general, he is invited to contact the undersigned at the number provided below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By: _____



Michael Britton
Registration No. 47260

Customer No. 21839
703 836 6620